

## **Method development for betamethasone and dexamethasone by micellar liquid chromatography using cetyl trimethyl ammonium bromide and validation in tablets. Application to cocktails**

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### **Abstract-**

An isocratic liquid chromatographic method for the determination of betamethasone (BM) and dexamethasone (DM) using methylprednisolone (MPL) as internal standard and micellar mobile phases consisting of cetyl trimethyl ammonium bromide (CTAB) and organic modifiers such as propanol, butanol and pentanol has been developed. The effect of organic modifiers, surfactant concentration, temperature and flow-rate on the separation has been studied. Method validation for dexametasone or bethametasone in tablets was carried out using a mobile phase 0.24% pentanol and 32.5 mM CTAB, a flow-rate of 0.5 ml min<sup>-1</sup>, an Hypersil C18 column (60 degrees C), and UV detection at 243 nm. The recoveries for BM and DM found in the accuracy test were 99 +/- 3 and 101 +/- 2, respectively. Repeatability and intermediate precision expressed as R.S.D. were lower than 5% for both compounds. The proposed method was applied to cocktails containing both compounds.

**Index Terms-** Betamethasone; Dexamethasone; Pharmaceuticals; Validation; MLC; CTAB;

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